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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/622,807	10/16/2000	Erich Kamperschroer	P00,1571	4198

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EXAMINER	
SHOU, HENRY K	

ART UNIT	PAPER NUMBER
2664	7

DATE MAILED: 01/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/622,807	KAMPERSCHROER ET AL.	
	Examiner	Art Unit	
	Henry K Shou	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-10 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-10 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 01 February 2001 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Specification

1 The disclosure is objected to because of the following informalities:

In the **Abstract,** the paragraph ***Telecommunication Systems with Wireless Telecommunication Between Mobile and/or Stationary Transmission/Reception Devices Based on Code-Division and Time-Division Multiplex*** in lines 1-3 and the phase ***Figure 10*** in line 17 are not part of the Abstract and therefore should be removed. In page 3, line 25 the phrase *Freqency Division Duplex* is believed a typo error and therefore this phrase should be corrected to be *Time Division Duplex.* In page 4, line 10 the term ***TFC1 sequence*** is believed a typo error and therefore this term should be corrected to be ***TFCI sequence.*** Appropriate corrections are required.

Claim Objections

2 Claims 1 and 7 are objected to because of the following informalities: 1). The phrase ***the carrier frequency (FR1...FR2)***, in claim1 and line 10, has an error in FR2 and therefore should be corrected to be ***the carrier frequency (FR1...FR12).*** *2).* A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by

such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 7 recites the broad recitation ***a part of logical channels of the telecommunication system*** and the claim also recites ***for example, the control channel for signaling, the AGCHchannel, the BCCHchannel, the PCH channel, thr RACH channel*** which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3 Claims 1-7 are rejected under 35 U.S.C. 102(e)(2) as being anticipated by Gilhousen et al. (U.S. Pat. 5,697,055), hereinafter referred to as Gilhousen.

In regard to claim 1, Gilhousen discloses the method described in the preamble characterized in that a stationary transmission/reception device (BS) (***base station B2B***, column 9, line 61) shuts off a broadcast signaling in an idle time-division multiplex

frame of a multi-time frame (***idle channel***, column 2, line 9, is a certain time frame of the master frame. There will be no any data transmitted from BS during the time in idle mode), acquires (***acquire***, column 9, line 62) an interference situation (***signal-to-noise ratio***, column 9, line 63-64, this power measurement shows the level of interference caused by noise) in a current telecommunication time slot pair (***reverse link***, column 9, line 64) by determining the noise power (***level of monitored parameter***, column 9, line 67 to column 10, line 1)), compares a measured interference (***monitored parameter***, column 10, line 1) to a predetermined threshold (***predetermined threshold***, column 10, line 1-2). and, if the interference value is higher than or equal to (***passes through***, column 10, line 1) the threshold (***predetermined threshold***), enters (***furnishing***, column 9, line 25) the interference value (***reported signal***, column 9, line 20) in a channel selection list (***channel***, column 9, line 27) for a handover procedure (***handoff*** from base station ... could then proceed, column 9, line17. Now it starts with the first handoff phase – ***handoff indication***).

In regard to claim 2, Gilhousen discloses the method according to claim 1 characterized in that the determination of the noise power (***signal-to-noise ratio***, column 9, line 63-64, this ratio inherently contains the information of noise power) by measuring the field strength (***the signal strength and the noise level inherently are measured and represented in terms of field strength and the unit is in decibels***).

In regard to claim 3, Gilhousen discloses the method according to claim 1 characterized in that (a) a handover time slot pair (***available channel***, column 4, line 67)

is identified by a stationary transmission/reception device (BS) (see column 4, lines 45-47, ***base station*** identify a handover time slot pair by establishing communication with the ***mobile station*** when the measured value of the quantifiable parameter passes through a predetermined level) during a first phase of a handover procedure, the handover indication (***handoff indication***); (b) during a second phase of the handover procedure, the handover initiation (see column 4 and lines 55-57, the handover initiation starts from the time when a base station establishes communication with the mobile station at the time specified by the ***handoff request message***), (b 1) the stationary transmission/reception device (BS) sends a first message "Handover Request" (M1) (***handoff request message***, column 4 and line 57) to mobile transmission/reception devices (***mobile station)*** allocated to the stationary transmission reception device (BS) with which the stationary transmission/reception device (BS) informs the mobile transmission/reception devices of the handover time slot (***available channel)***; (b2) the stationary transmission/reception device (BS) sends the first message "Handover Request" (Ml) (***handoff request message***) to the mobile transmission/reception devices (***mobile stations***) until all mobile transmission/reception devices allocated to the stationary transmission/reception device (BS) have confirmed the initiation of the handover by the first message (Ml) (see column 7 and lines 3-4, the paging message is ***responded*** by the mobile station with a ***control message***); (c) the handover procedure is ended during a third phase of the handover procedure, the execution of a handover (see column 7 and lines 7-8, controller 10 then ***routes the call through this base station to the mobile station***).

In regard to claim 4, Gilhousen discloses the method according to claim 3 characterized in that the first message (M1) (***handoff request message***) is confirmed (***responded***) by a second message (M2) (***control message***, see column 7 and lines 3-4).

In regard to claim 5, Gilhousen discloses the method according to claim 3 characterized in that the first message (M1) (***handoff request message***) is confirmed (***responded***) in that the mobile transmission/reception devices (***mobile stations***) immediately transmit data (MT resumes regular traffic without the influence of handoff control operations) to be transmitted in the handover time slot pair (***available channel,*** this channel is the newly routed telecommunication channel in the channel list).

In regard to claim 6, Gilhousen discloses the method according to claim 1 characterized in that transmission path services (***data link 34*** which identifies the channel on which communication is to be established, see column 9 and line 26) fashioned as bearer services (***channel***, see column 9 and line 27, this channel is a logical control channel like pilot signal) that are required in downstream (***reverse link 22A*** in figure 1) and/or upstream (***forward link 22B*** in figure 1) direction in the telecommunication system are bundled in a code level erected by the codes (***PN spreading code***, see column 6 and lines 19-21, The pilot signal as transmitted by each base station may often be the same ***PN spreading code*** . but with a different code phase shift).

In regard to claim 7, Gilhousen discloses the method according to claim 6 characterized in that at least a part of logical channels (***pilot signal***, column 6, line 11-14)

of the telecommunication system is bundled in the code level (***PN spreading code***) as bearer services (logic control ***channel***).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4 Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art (admission).

In regard to claims 8-9, admission discloses that the bundling occurs in a first selection time slot (ZS'l) in downstream direction and in a second selection time slot (ZS'5) in upstream direction, and that a first time slot (ZS' l) of the time slots (ZS'l...ZS'8) is allocated to the first selection time slot (ZS'1) and a fifth time slot (ZS'5) of the time slots (ZS'l...ZS'8) is allocated to the second selection time slot (ZS'5). See page 12, lines 13-30 and page 13, lines 1-25. These two claims use a modified TDD time-division multiplex frame based on a well-known DECT telecommunication standard as shown in Figure 7 (page12, lines 14-15) to have all features same except the number of time slots for each downward and upward transmission direction and set fixed time slot to bundle the logic channel for each direction. Admission teaches in page 12 and lines 18-23 that the plurality of time slots has been reduced from 16 to 8 in total (or 8 to 4 in each

direction) merely for presentation reasons and can be varied more or less arbitrarily dependent on the telecommunication system, as can the other physical resources (for example, code, frequency, etc.). As to which time slot would be selected to be the one to bundle the logic channel is merely the design choice. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the original transmission time frame of prior art by just reducing the number of time slots from 16 to 8 in order to merely make channel allocation presentation easier and arbitrarily choose the fixed time slots for each transmission direction (ZS'1 for Downlink and ZS'5 for Uplink) just in order to make design choice.

In regard to claims 10, admission discloses a method according to claim 1, characterized in that a time slot pair, a downlink time slot (ZS'DOWN) and an uplink time slot (ZS'UP), is selected such in the TDD mode for each telecommunication connection that the spacing (AS2...AS5) between the downlink time slot (ZS'DOWN) and the uplink time slot (ZS'up) that are allocated to the same carrier frequency (FRI ...FRl2) or different carrier frequencies (FRI ...FR12) is a fraction of the length of a time-division multiplex frame (ZMR), whereby the spacing (AS2...AS5) is fixed or variable. See page 14 and lines 18-22. Admission teaches that : for each telecommunication connection in the groups G1, G2, a first spacing AS1 between the downlink times slot ZS_{DOWN} and the uplink time slot ZS_{UP} – according to the Prior Art (see Figure 7) - is as long as half the time-division multiplex frame ZMR. The spacing is thus a fraction of the length of the time-division multiplex frame ZMR, whereby the fraction has the value 0.5. It would have been obvious to one of ordinary skill in the art at

the time the invention was made to modify the original transmission time frame of prior art as shown in Figure 7 by just adjusting G1/G2 groups in order to get the optimal fixed or variable spacing to obtain the best interference-immune effect.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Schiff et al. (US Pub. No 2001/0007552), Method and apparatus for adjacent service area handoff in communication systems

Torbjorn Ward (US Patent No 6,006,092), Quality driven voice channel selection in a cellular telephone system using idle voice channel signal strength measurements

Raffel et al. (US Patent No 6,611,692), Cordless cellular system

Scott M. Hall (US Patent No 5,491,717), Method for controlling transmission during handoff in a communication system

Song et al. (US Pub. No 2003/0193917), Channel assignment method for multi-FA CDMA cellular systems

Uchida et al. (US Patent No 6,160,801), Mobile communication system

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry K Shou whose telephone number is (703) 305-7457. The examiner can normally be reached on weekdays 7 AM – 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (703) 305-4798. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

HKS
January 8, 2004

RICKY NGO
PRIMARY EXAMINER